

# Iowa Farm Outlook

August, 2011

Department of Economics  
Ames, Iowa

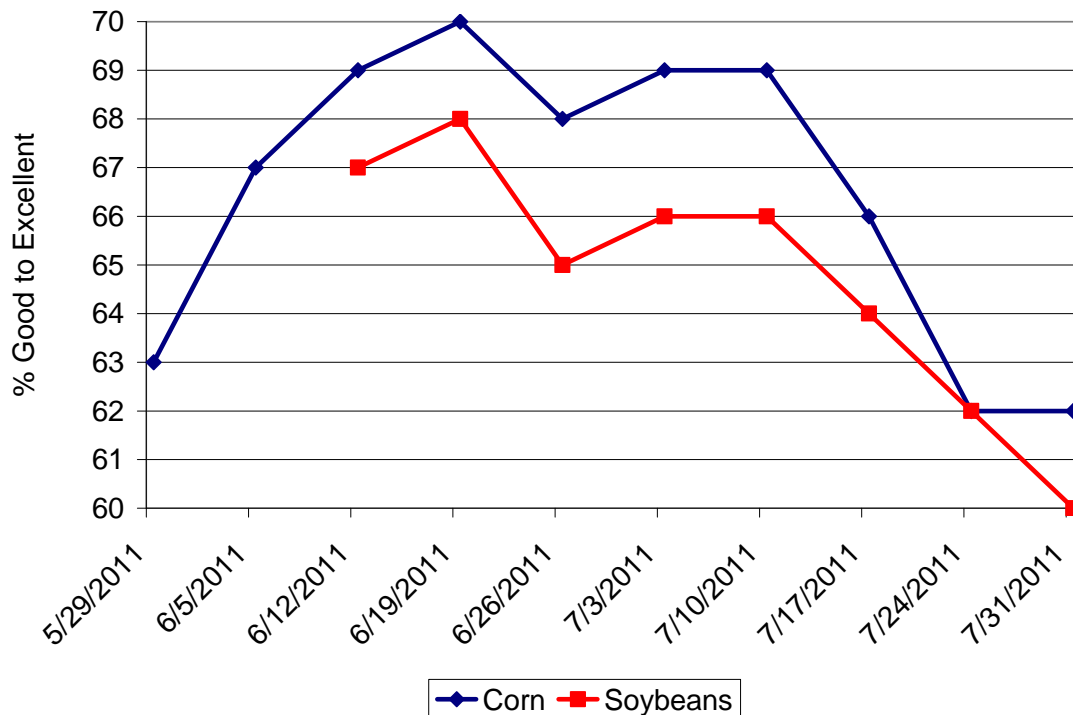
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## Weakening Numbers Everywhere Except in Crop Prices

As we enter State Fair time, it seems like everywhere we look we see weak economic numbers. The stock market has recently been in a slump, job numbers are less than expected, and concerns about our economy continue to grow. This number slump has also hit agriculture. Crop exports have slowed, as has ethanol growth. Feed demand remains weak as the livestock industry recovers. These shifts indicate crop stocks are on the rise. But crop conditions have slid downward. So the market over the past month has been trying to balance information on shrinking expectations for crop supplies and demands for the crops out in the fields. That balancing act has pushed crop prices higher over the second half of July, indicating the market is more concerned about those shrinking supplies than it is about demand.

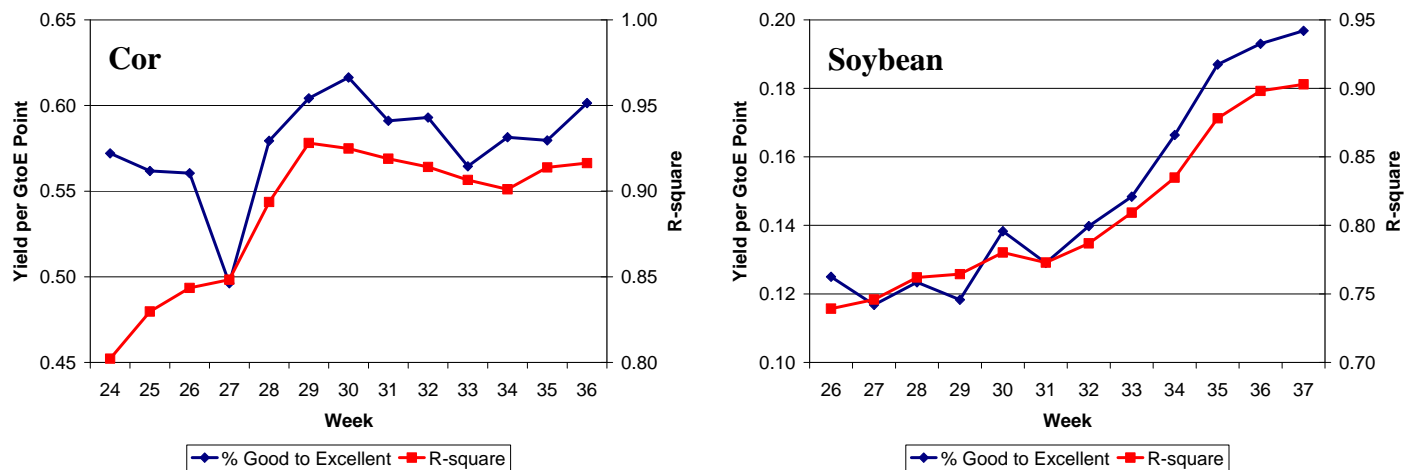
Figure 1 shows the crop conditions, as reported by USDA, through this summer. The late start on planting put the 2011 crops on shaky ground to start. But overall the crops looked better than usual we entered July. For comparison, over the 25 years of data that USDA provides on the crop conditions reports, the average corn condition has 64 percent of the crop in the “Good” to “Excellent” categories. For soybeans, the average is 58 percent. So the 2011 crops were rating above average in mid-June. However, since then weather conditions have continued to hamper potential production. Between continued flooding along the Missouri River, the drought that has dried out the Southern Plains, and the pulses of heat waves across the nation; it has been a challenging year for agriculture. And while crops remain in relatively good shape across Iowa, we have seen the crop conditions steadily deteriorate both at the state and national levels. Over the past seven weeks, eight percent of the corn and soybean crops were downgraded out of the Good-to-Excellent range. While the soybean crop’s rating is above the 25 year average, the corn crop has fallen below the 25 year average.

**Figure 1. Crop Conditions This Summer (Source: USDA-NASS)**



In the past, I (and many other analysts) have used the crop condition numbers to construct projections of crop yields. Since the condition reports are consistently gathered on a weekly basis during the growing season, they provide an updated snapshot of the crops throughout the summer. Recently, I decided to explore the historical relationship between the crop condition ratings and the final yields reported by USDA. Figure 2 shows some of the results of that analysis. For simplicity, I constructed a yield equation based on a simple time trend and the percentage of the crop rated Good-to-Excellent and estimated it for each week during the summer using the 25 years' (1986-2010) worth of data available. Overall, the results were as expected. The crop conditions do provide pretty good estimates of final crop yields. The  $R^2$  for an equation is a statistical measure of how well the equation fits the data. If the  $R^2$  for an equation is one, then the equation perfectly fits the data. Since the  $R^2$  for the corn and soybean equations starts out above 0.75 early in the year and improves to over 0.9 over the course of the summer, their fit of yields is very good.

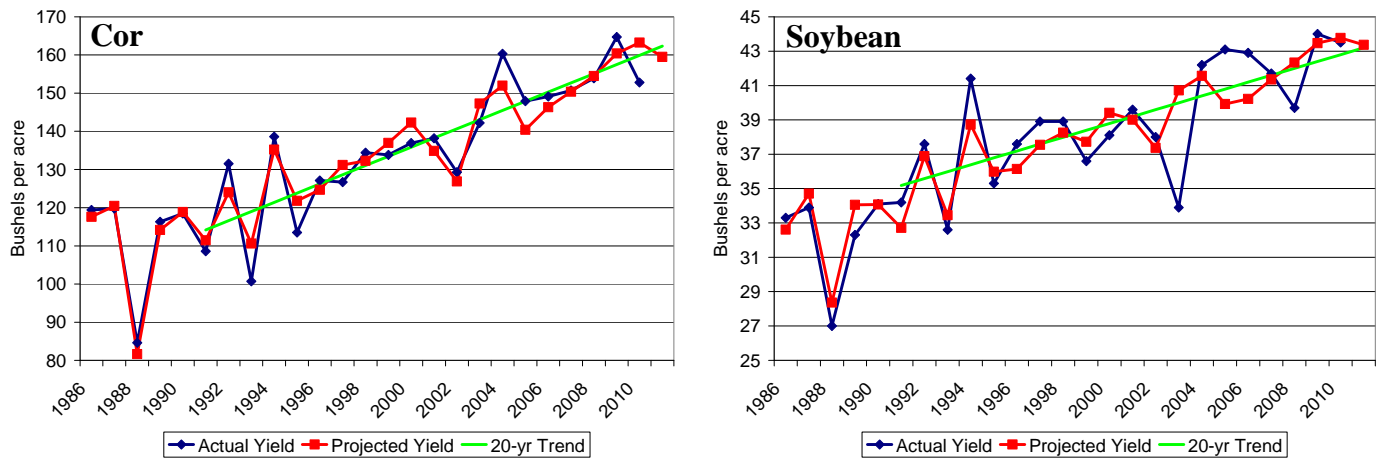
**Figure 2. Historical Relationship between Crop Conditions and Final Yield**



But there are some interesting patterns to those relationships between yields and crop ratings. The pattern I expected was the one we see for soybeans. Over time the crop conditions report provides a better yield estimate over time. The gain/loss of one percentage point in the Good-to-Excellent categories is worth roughly 0.12 bushels of soybeans early in the year, but is worth nearly 0.2 bushels near harvest. As you can see, this pattern does not hold for corn. Historically, among the weekly crop conditions reports for corn, the Week 29 report (typically released in the last week of July, the 29<sup>th</sup> week of the calendar year) provided the best fit for corn yields. The reports after Week 29 seem to add little information on average. The gain/loss of one percentage point in the Good-to-Excellent categories is worth roughly 0.55 to 0.6 bushels of corn throughout the growing year. These equations indicate with the recent decline in crop conditions, projected corn yields have declined by nearly 5 bushels per acre and projected soybean yields have dropped just over a bushel per acre.

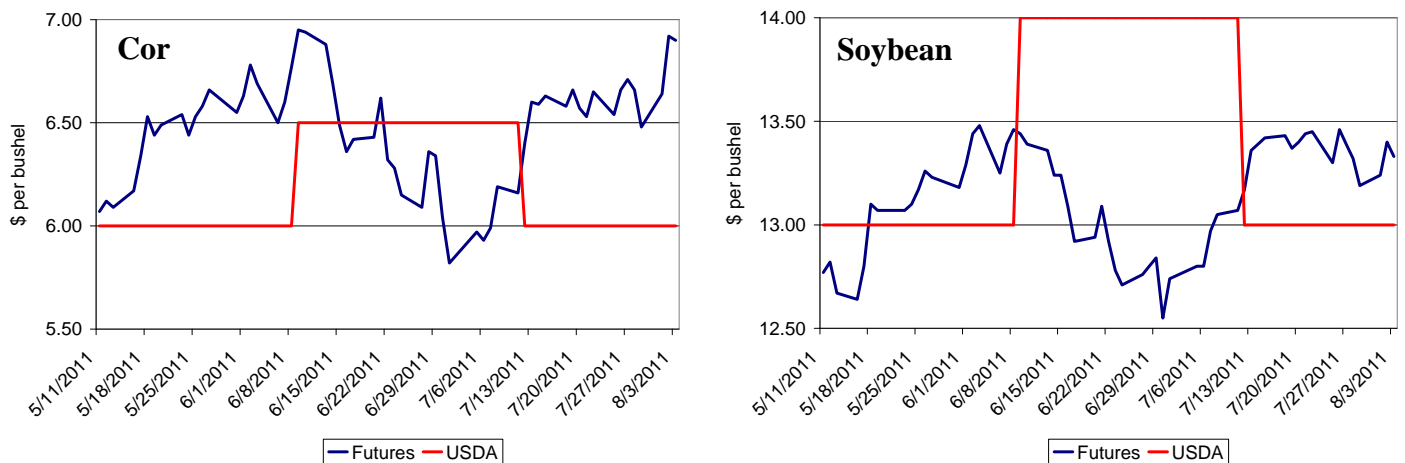
Figure 3 shows the yield projections based on the Week 29 crop conditions for corn and the Week 30 (the latest available) crop conditions for soybeans. The final yields for each year are also shown, along with the 20-year linear yield trend for each crop. For soybeans, the crop conditions point to a yield of 43.4 bushels per acre, the same as USDA's current projection and the 20-year trend yield. For corn, the crop conditions point to a yield of 159.5 bushels per acre for 2011. That is above USDA's current projection of 158.7 bushels per acre, but below the 20-year trend by 2.8 bushels. However, in looking at the corn graph, you can see that the 2010 estimate was one that was far off the mark. Last year highlighted one of the issues with the linkage between yields and crop conditions. Some yield reducing events do not have significant visible impacts on the corn plant and so are not captured in the crop conditions survey. The warm nighttime temperatures last year did not show up in the crop conditions data, but definitely did have an impact on yields as they shortened the grain fill window. That is a concern again this year. And that is why there is a lot of uncertainty about this corn crop.

**Figure 3. U.S. Crop Yields and Projections**



That yield uncertainty has pushed crop prices higher. Figure 4 shows season-average price estimates from USDA and my projections based on futures prices. Futures have basically moved the opposite direction from USDA. When USDA raised its price estimates in June, the corn and soybean futures retreated to levels well below the USDA midrange price estimate. By the time USDA lowered their estimates down in July, the futures markets were back on the upswing. Currently, the corn market is trading in a range that puts the 2011/12 season-average price between \$6.50 and \$7.00 per bushel. Soybeans have settled in between \$13.25 and \$13.50 per bushel. These prices are well above production costs and offer healthy margins, and that has been the case throughout this spring and summer. The potential is there for even higher prices, if projected yields decline. But remember supply is only half of the market, weakening demand would put a top on upside price potential. As the Dow reminded us with the recent 500 point drop, market weakness may not be that far away.

**Figure 4. 2011/12 Season-average Price Estimates**



*Chad Hart*

**June Milk Production Up 1.4%,**

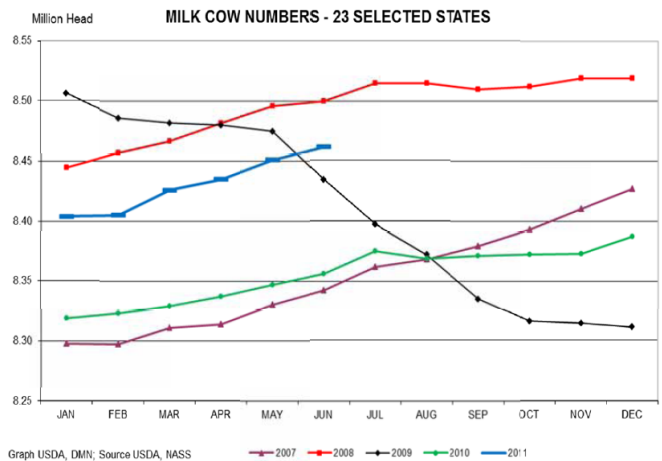
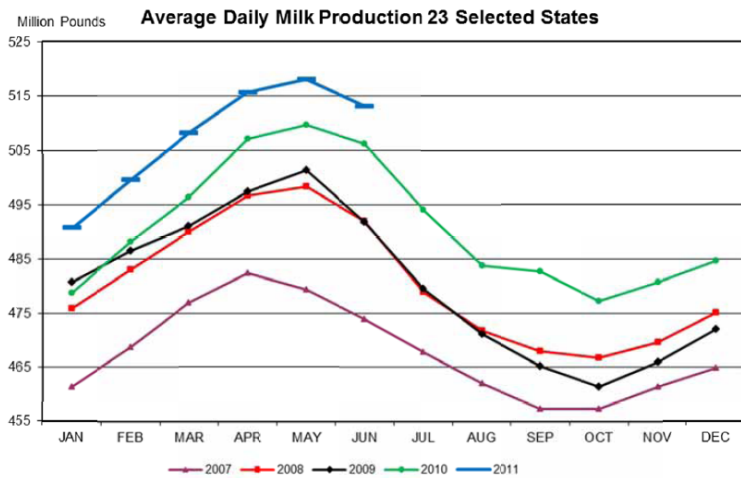
June 2011 23 major dairy states milk production increased 1.4%. Production per cow was down by 2 pounds from one year ago. Milk cow numbers were 106,000 more than Jan. 2010 but 11,000 more than May 2011. May 2011 milk production was revised up 20 million pounds or 0.1%. Q2 2011 US milk production was up 1.4% from the same period in 2010. The average milk cow numbers for the quarter were 9.20 million or 79,000 more than one year ago.

Iowa June 2011 milk production was -2.9% compared to one year ago. Cow numbers were 8,000 less compared to one year ago and milk production per cow was only 15 pounds higher than one year ago. Cheese production in Iowa during May 2011 was 20,765,000 pounds, up 1.1% from April 2011 and -.08% higher than one year ago.

**Milk Production: Selected Dairy States, June 2011**

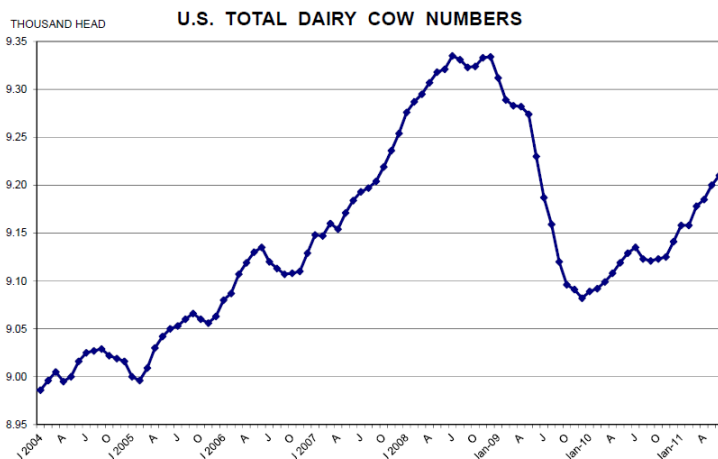
State	thousands			pounds			million pounds		% change total milk
	2010 cow numbers	2011 cow numbers	% change cow numbers	2010 milk per cow	2011 milk per cow	% change milk/cow	2010 total milk production	2011 total milk production	
Iowa	212	204	-3.77%	1760	1775	0.85%	363	362	-0.25%
MN	470	471	0.21%	1670	1590	-4.79%	785	749	-4.59%
WI	1262	1266	0.32%	1780	1745	-1.97%	2175	2209	1.57%
IL	101	98	-2.97%	1615	1600	-0.93%	163	157	-3.87%
CA	1754	1773	1.08%	1935	1980	2.33%	3394	3511	3.43%
CO	118	127	7.63%	2010	1990	-1.00%	237	253	6.56%
KS	118	123	4.24%	1755	1765	0.57%	207	217	4.83%
ID	562	578	2.85%	1910	1950	2.09%	1073	1127	5.00%
AZ	176	186	5.68%	2025	1980	-2.22%	356	368	3.33%
NM	325	328	0.92%	2080	2100	0.96%	676	689	1.89%
PA	541	543	0.37%	1660	1620	-2.41%	898	880	-2.05%
NY	610	610	0.00%	1770	1775	0.28%	1080	1083	0.28%
TX	411	434	5.60%	1775	1850	4.23%	730	803	10.06%
23-State	8356	8462	1.27%	1817	1819	0.11%	15186	15394	1.37%
US 2nd quarter	9119	9198	0.87%				49809	50439	1.26%

Eight of the 23 dairy states had less milk than one year ago. MO had the largest decline in milk production, -5.7%, while cow numbers dropped by 4,000. The second largest milk drop was in MN with 1,000 fewer cows but a drop of 80 pounds per cow. Two states had 6%+ gains in milk production, CO and WA. WI had 4,000 more cows but lost 35 pounds of milk per cow.



Source: Dairy Market News

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## Livestock Slaughtered Under Federal Inspection, By Class - United States

[Data may not add to totals due to rounding]

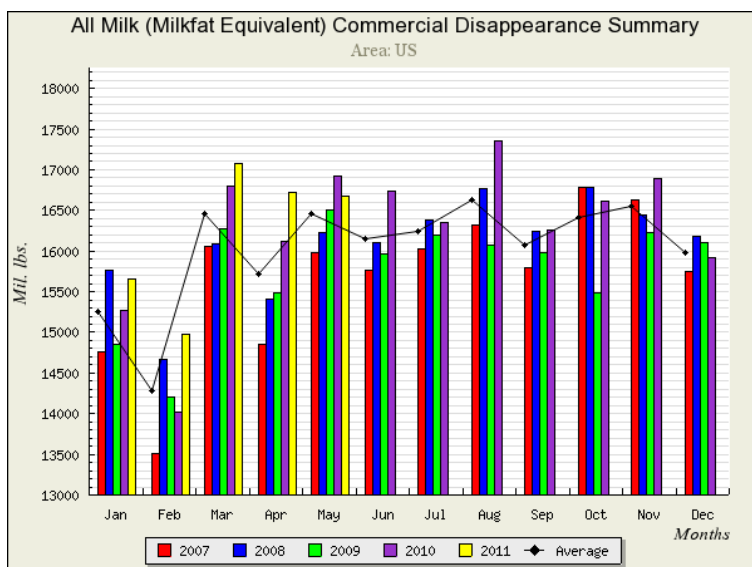
Class	June 2010 (1,000 head)	May 2011 (1,000 head)	June 2011 (1,000 head)	January - June		June 2010 (percent of total)	May 2011 (percent of total)	June 2011 (percent of total)	January - June	
				2010 (1,000 head)	2011 (1,000 head)				2010 (percent of total)	2011 (percent of total)
<b>Cattle</b>										
Steers .....	1,564	1,431	1,596	8,206	8,248	52.1	51.5	52.2	49.5	49.4
Heifers .....	860	782	878	4,936	4,991	28.6	28.2	28.7	29.8	29.9
All cows .....	525	516	538	3,127	3,168	17.5	18.6	17.6	18.9	19.0
Dairy cows .....	214	220	219	1,370	1,458	7.1	7.9	7.2	8.3	8.7
Other cows .....	311	296	319	1,758	1,710	10.4	10.6	10.4	10.6	10.2
Bulls .....	55	48	47	303	287	1.8	1.7	1.5	1.8	1.7
<b>Total .....</b>	<b>3,004</b>	<b>2,777</b>	<b>3,058</b>	<b>16,572</b>	<b>16,694</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Livestock Slaughter, July USDA

USDA's "Livestock Slaughter" report said dairy producers sent 219,000 dairy cows to slaughter during June 2011, 1,000 less than May 2011 but 5,000 more than one year ago. During Jan-June period, US dairy producers culled 88,000 more dairy cows than one year ago. There are still a lot of dairy replacement heifers we are working through. The previous sentence I wrote 6 months ago. The latest USDA Cattle Inventory, July 22, 2011, indicated an increase of 4% for dairy heifers from one year ago while dairy cow numbers are 1% higher. Dairy cow numbers are back to levels of mid-2007.

### Demand or Disappearance

Fluid milk demand is lower than one year ago. YTD fluid milk is -1.4% with May -1.9%. Organic milk consumption rose 22%. Organic whole milk rose by 25.8% YTD. It makes up nearly ¼ of organic fluid milk sales. Without the organic category, fluid milk sales would have dropped by 2.3%. Five FMMO's had fluid milk sales decline by 2% or more YTD: Northeast, Southeast, Florida, Mideast and California. The Pacific Northwest was the only FMMO where fluid milk sales rose but only by 0.2%. YTD, Jan-April, commercial disappearance of all dairy products is up 2.8%. Three of 5 categories of dairy products rose. Fluid milk is off 1.5% YTD and NDM is down 5.7%. Butter commercial disappearance is up 15%, American cheese up 4% and Other cheese 7.1% higher. Imports are 1.2% lower.

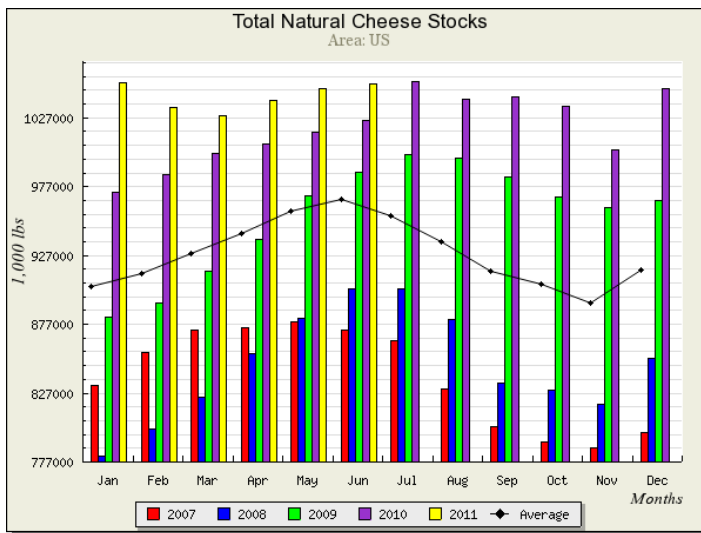


Source: Understanding Dairy Markets, U of WI

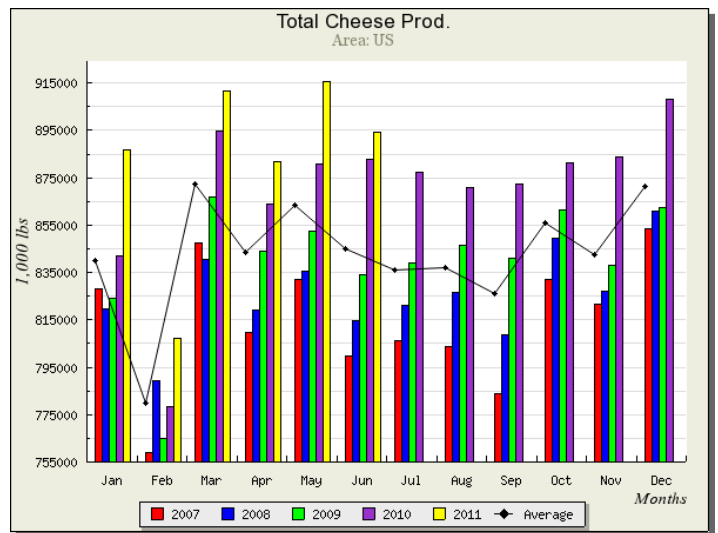
### Dairy Product Manufacture: June 2011

Product	thousands pounds	June 10 % change	May 11 % change	YTD % change
Butter	140,669	20.10%	-9.5	-9.5
Cheese, total	894,084	1.30%	-2.3	-2.3
Cheddar	270,762	-5.40%	-4.5	-4.5
Other American	93,603	11.50%	6.7	6.7
Swiss	28,421	3.30%	-2.3	-2.3
Italian Style	380,776	4.50%	-3.3	-3.3
NDM	118,136	13.90%	-6.3	-6.3
Sour Cream	107,027	3.30%	0.9	0.9
Yogurt	376,437	3.80%	8.2	8.2
Dry Whey, total	83,975	-2.40%	-8.3	-8.3
Lactose	88,902	13.20%	3.4	3.4
WPC	36,863	4.40%	0.1	0.1
Frozen	1000 gal			
Ice cream, regular	76,441	-7.80%	1.9	1.9
Ice cream, lowfat	43,118	1.70%	11	11

Source: Dairy Products



Source: Understanding Dairy Markets, U of WI



Source: Understanding Dairy Markets, U of WI

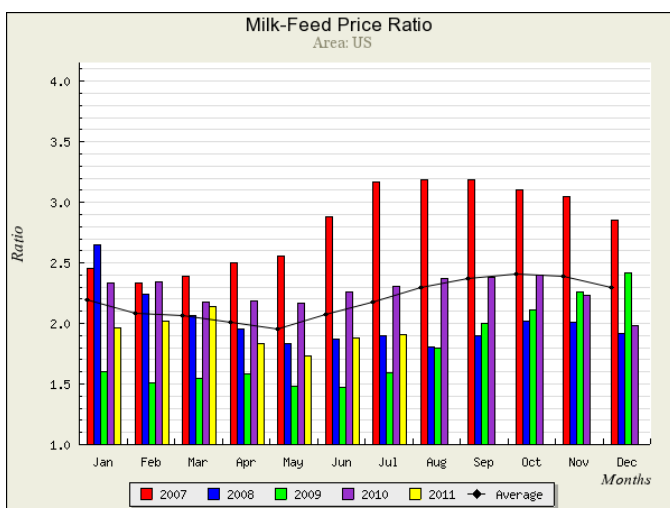
We remain above 1 billion pounds of cheese in stock. We have been above that mark for 7 of the 11 months of 2010. We have manufactured in excess of 800 million pounds of cheese monthly since Sept. 2007. The most recent USDA “Dairy Products” report said May 11 cheese production was 915.2 million pounds, up 3.9% from one year ago. Butter production was up 12.5%, NDM -6.8%, and SMP was 77.2% higher.

2011 YTD export value is up 36% from one year ago, but May 2011 is up 11% from one year ago. In the March-May period, U.S. exports of dry ingredients (milk powder, whey and lactose), cheese and butterfat were 400,686 tons, up 7 percent from a year ago, according to trade data released July 12 by USDA's Foreign Agricultural Service. Cheese and butter exports were much higher, Cheese volume increased 56% and butterfat was 74% higher. Mexico is the most important importer of US dairy products, they are up 45% YTD. SE Asia is next increasing 47% YTD. Canada is third but they increased only 11%.

**Analysis**

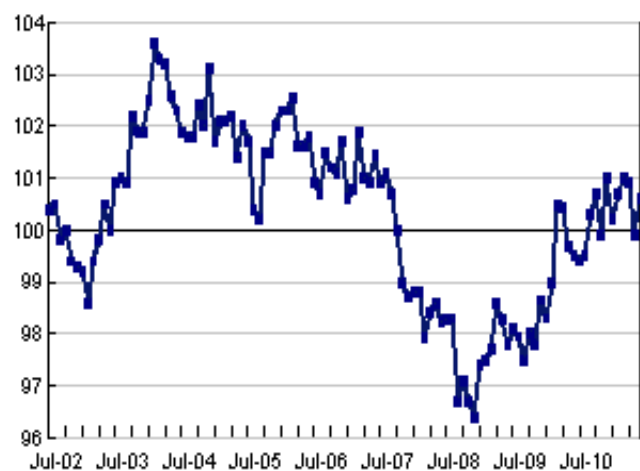
The Milk-Feed Price ratio continues to be weak and has been well below the 5-year average since March. Recent feed price increases will push it lower pressuring feeding margins. The most recent Ag Prices from USDA reported the current income over feed cost (IOFC) at \$10.53. The 10-year average IOFC is \$9.09. Of course it is difficult to argue that dairy producers are better off since other costs have risen since 2001.

“Driven by stronger same-store sales and traffic levels and a more optimistic outlook among restaurant operators, the National Restaurant Association’s (NRA) Restaurant Performance Index rose above 100 in June.” said the NRA. Since dairy tends to be complimentary with beef and a major restaurant menu ingredient, the comment is appropriate for the dairy industry as well.



Source: Understanding Dairy Markets, U of WI

**Restraurant Performance Index**



Source: National Restaurant Assoc.

Some data is suggesting a double dip recession is likely. Consumer spending is declining as they re-trench for expected weaker economic times. Budget battles in Washington DC are going to continue for some time. The dairy industry is now in consensus building to put a new dairy program in place. This program would likely replace current price support and MILC programs. Right now there isn't enough support to get something through the US Congress.

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